

REMARKS

Reconsideration of the above-captioned application is requested.

Although Applicants do not agree with the objection raised against Figure 6 as containing new matter, the entry of that figure is not presently being sought, and the language describing the figure has been deleted from the specification.

A preferred embodiment of the invention relates to a tire tread having motifs 10 that are interconnected by at least two rubber connecting elements 4, 5, wherein a cavity 6 is formed which closes when in contact with a roadway (either when the tire is new or after a certain period of wear).

In order to minimize noise generated by such a tread structure, the present invention involves providing at least one of the connecting elements with at least one orifice (51, 71, 72, 84) extending therethrough to communicate the cavity with a groove to enable air in the cavity to escape. Hence, a noise-generating suction effect is prevented.

Claim 10 recites that at least one of the connecting elements comprises at least one orifice, and that such connecting element interconnects two motifs and is molded in one of the grooves.

Claim 10 stands rejected as anticipated by Billingsley, it being noted that Billingsley discloses that the circumferential ribs 18, 19, 20 could be discontinuous (whereby transverse grooves and motifs would be formed). Billingsley also discloses cavities 21 and orifices 22 communicating with the cavities.

However, even if his ribs were discontinuous, Billingsley would, in effect, be disclosing to provide the cavities within the motifs rather than in one of the grooves. Claim 10 has been amended to clarify the fact that the connecting element in which

the orifice is formed is molded in a groove and interconnects two of the motifs. Billingsley does not disclose to mold an orifice-containing connecting element in a groove as recited in claim 10.

Claims 10 and 13 also stand rejected over Billingsley in view of either Ishiyama or Smith et al. Ishiyama like Billingsley, discloses forming passages in the blocks (for the removal of water), and thus does not overcome the deficiencies of Billingsley as regards claims 10 and 13.

Smith et al. disclose to form recesses b within a tire tread to improve its flexibility. In order to clean the recesses, they are interconnected by passages c to enable air pressurized during tire rotation to be forced through the passages and remove debris from adjacent recesses. Thus, there are no blocks formed in Smith et al., and thus no cavities between the blocks. Accordingly, Smith et al. fail to overcome the deficiencies of Billingsley as regards claims 10 and 13. Moreover, an artisan would not consider the recess-cleaning function of Smith et al. to be relevant in an arrangement where the orifices communicate with longitudinal and/or transverse grooves (as in the presently claimed invention, instead of with isolated recesses (as in Smith et al.) which are highly susceptible to being clogged with debris.

Claims 10 and 13 are also rejected over Matsuura in view of either Watanabe or Japan '908. Matsuura discloses a tire having blocks interconnected by tie bars, but no orifices in the tie bars. Watanabe and Japan '908 disclose that a block can have a sipe formed therein, but there is no disclosure of any connecting elements or orifices therein as recited in claims 10 and 13. There is particularly no disclosure in Watanabe or Japan '908 of providing orifices in communication with cavities of the

type that could otherwise produce noise. An artisan aware of these three references might, at best, find it obvious to form the sipes of Watanabe and Japan '908 in blocks of Matsuura, but not in Matsuura's cavities. Accordingly, it will be appreciated that claims 10 and 13 distinguish patentably over the applied prior art.

Claim 16 is directed to the embodiment disclosed in connection with Fig. 5, namely wherein the connecting elements 4", 5" are formed in a transverse groove, and communication of the cavity with a groove is established by a longitudinal (circumferential) channel 121 formed in a motif. As regards the objection raised in section no. 6 of the Official action, there is apparently a misunderstanding of the term "lateral" in the paragraph beginning on page 7, line 11, which describes the embodiment of Fig. 5 on which claim 16 is readable. In lines 10-13 of page 7, it is described how each block has four "lateral" faces. Thus, two of those lateral faces would face circumferential grooves, and the other two lateral faces would face transverse grooves. Accordingly, the term "lateral" was not meant to be synonymous with "transverse". Instead, Fig. 5 view is similar to the views of Figs. 1 and 2, wherein the connecting elements 5" and 6" are disposed in a transverse channel 121 which extends longitudinally.

As regards the various rejections of claim 16 relying upon Billingsley as a base reference, it is noted that in Billingsley there are no connecting elements formed in a transverse groove (actually, there are no transverse grooves in Billingsley). The Watanabe and Japan '908 references disclose channels formed in a transverse direction within a block in order to affect the behavior of the block. There is no suggestion that the same results would be created by a longitudinally (circumferentially) extending channel, so there would be no motivation from either of

those references to provide a motif of Billingsley with a longitudinally extending channel, and it is submitted that claim 16 distinguishes patentably thereover.

Moreover, there are no transverse grooves in Smith et al., and in none of the three references (Billingsley, Watanabe, and Japan '908) are there channels pass through the whole of the motif in the longitudinal direction. Accordingly, there would be no motivation for providing such structure in Billingsley.

In light of the foregoing, it is submitted that the present claims distinguish patentably over the applied prior art and the application is in condition for allowance.

Respectfully submitted,

BUCHANAN INGERSOLL PC

Date: April 19, 2006

By: 

Alan E. Kopecki

Registration No. 25,813

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620